

<b>Exploring the Extreme</b>			
<b>2009 Science Revised June 2010</b>			
<b>Learning Standards</b>			
<b>Washington Science Revised June 2010</b>			
<b>Grades K-1</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Finding the Center of Gravity Using Rulers	WA	SCI.K-1.2.K-1 INQD.1	Report observations of simple investigations, using drawings and simple sentences.
Finding the Center of Gravity Using Rulers	WA	SCI.K-1.4.K-1 PS1A.1	Use common terms so that all observers can agree on the position of an object in relation to another object (e.g., describe whether the teacher's desk is in front of the room, at the side, or in the back; say whether the top of the school's flagpole is higher or lower than the roof).
Finding the Center of Gravity Using Rulers	WA	SCI.K-1.4.K-1 PS1B.1	Demonstrate motion by moving an object or a part of a student's body and explain that motion means a change in position.
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<b>2009 Science Revised June 2010</b>			
<b>Learning Standards</b>			
<b>Washington Science Revised June 2010</b>			
<b>Grades 2-3</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Finding the Center of Gravity Using Rulers	WA	SCI.2-3.2.2-3 INQB.1	Work with other students to make and follow a plan to carry out a scientific investigation. Actions may include accurately observing and describing objects, events, and organisms; measuring and recording data; and predicting outcomes.
Finding the Center of Gravity Using Rulers	WA	SCI.2-3.2.2-3 INQC.1	Distinguish between direct observations and simple inferences.
Finding the Center of Gravity Using Rulers	WA	SCI.2-3.2.2-3 INQE.1	Use a simple model to study a system. Explain how the model can be used to understand the system.
Finding the Center of Gravity Using Rulers	WA	SCI.2-3.2.2-3 INQG.1	Communicate honestly about their investigations, describing how observations were made and summarizing results.
Finding the Center of Gravity Using Rulers	WA	SCI.2-3.4.2-3 PS1A.1	Give an example to illustrate motion as a change in position over a period of time (e.g., if a student stands near the door and then moves to his/her seat, the student is "in motion" during that time).
Finding the Center of Gravity Using Rulers	WA	SCI.2-3.4.2-3 PS1B.1	Identify the force that starts something moving or changes its speed or direction of motion (e.g., when a ball is thrown or when a rock is dropped).

Finding the Center of Gravity Using Plumb Lines	WA	SCI.2-3.2.2-3 INQB.1	Work with other students to make and follow a plan to carry out a scientific investigation. Actions may include accurately observing and describing objects, events, and organisms; measuring and recording data; and predicting outcomes.
Finding the Center of Gravity Using Plumb Lines	WA	SCI.2-3.2.2-3 INQD.1	Use simple instruments (e.g., metric scales or balances, thermometers, and rulers) to observe and make measurements, and record and display data in a table, bar graph, line plot, or pictograph.
Finding the Center of Gravity Using Plumb Lines	WA	SCI.2-3.2.2-3 INQE.1	Use a simple model to study a system. Explain how the model can be used to understand the system.
Finding the Center of Gravity Using Plumb Lines	WA	SCI.2-3.2.2-3 INQG.1	Communicate honestly about their investigations, describing how observations were made and summarizing results.
Finding the Center of Gravity Using Plumb Lines	WA	SCI.2-3.4.2-3 PS1A.1	Give an example to illustrate motion as a change in position over a period of time (e.g., if a student stands near the door and then moves to his/her seat, the student is "in motion" during that time).
Finding the Center of Gravity Using Plumb Lines	WA	SCI.2-3.4.2-3 PS1B.1	Identify the force that starts something moving or changes its speed or direction of motion (e.g., when a ball is thrown or when a rock is dropped).
Changing the Center of Gravity Using Moment Arms	WA	SCI.2-3.2.2-3 INQB.1	Work with other students to make and follow a plan to carry out a scientific investigation. Actions may include accurately observing and describing objects, events, and organisms; measuring and recording data; and predicting outcomes.
Changing the Center of Gravity Using Moment Arms	WA	SCI.2-3.2.2-3 INQC.1	Distinguish between direct observations and simple inferences.
Changing the Center of Gravity Using Moment Arms	WA	SCI.2-3.2.2-3 INQD.1	Use simple instruments (e.g., metric scales or balances, thermometers, and rulers) to observe and make measurements, and record and display data in a table, bar graph, line plot, or pictograph.
Changing the Center of Gravity Using Moment Arms	WA	SCI.2-3.2.2-3 INQG.1	Communicate honestly about their investigations, describing how observations were made and summarizing results.
Changing the Center of Gravity Using Moment Arms	WA	SCI.2-3.4.2-3 PS1A.1	Give an example to illustrate motion as a change in position over a period of time (e.g., if a student stands near the door and then moves to his/her seat, the student is "in motion" during that time).

Changing the Center of Gravity Using Moment Arms	WA	SCI.2-3.4.2-3 PS1B.1	Identify the force that starts something moving or changes its speed or direction of motion (e.g., when a ball is thrown or when a rock is dropped).
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<b>Grades 4-5</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Finding the Center of Gravity Using Rulers	WA	SCI.4-5.2.4-5 INQA.1	Identify the questions being asked in an investigation. Gather scientific evidence that helps to answer a question.
Finding the Center of Gravity Using Rulers	WA	SCI.4-5.2.4-5 INQB.1	Given a research question, plan an appropriate investigation, which may include systematic observations, field studies, models, open-ended explorations, or controlled experiments.
Finding the Center of Gravity Using Rulers	WA	SCI.4-5.2.4-5 INQF.1	Create a simple model to represent an event, system, or process.
Finding the Center of Gravity Using Rulers	WA	SCI.4-5.2.4-5 INQF.2	Use the model to learn something about the event, system, or process.
Finding the Center of Gravity Using Rulers	WA	SCI.4-5.2.4-5 INQH.2	Communicate to peers the purpose, procedure, results, and conclusions of an investigation.
Finding the Center of Gravity Using Rulers	WA	SCI.4-5.3.4-5 APPF.1	Communicate the solution, results of any tests, and modifications persuasively, using oral, written, and/or pictorial representations of the process and product.
Finding the Center of Gravity Using Plumb Lines	WA	SCI.4-5.2.4-5 INQH.2	Communicate to peers the purpose, procedure, results, and conclusions of an investigation.
Finding the Center of Gravity Using Plumb Lines	WA	SCI.4-5.3.4-5 APPF.1	Communicate the solution, results of any tests, and modifications persuasively, using oral, written, and/or pictorial representations of the process and product.
Changing the Center of Gravity Using Moment Arms	WA	SCI.4-5.2.4-5 INQA.1	Identify the questions being asked in an investigation. Gather scientific evidence that helps to answer a question.
Changing the Center of Gravity Using Moment Arms	WA	SCI.4-5.2.4-5 INQH.2	Communicate to peers the purpose, procedure, results, and conclusions of an investigation.
Changing the Center of Gravity Using Moment Arms	WA	SCI.4-5.3.4-5 APPF.1	Communicate the solution, results of any tests, and modifications persuasively, using oral, written, and/or pictorial representations of the process and product.

Jet Propulsion	WA	SCI.4-5.2.4-5 INQD.1	Gather, record, and organize data using appropriate units, tables, graphs, or maps.
Jet Propulsion	WA	SCI.4-5.2.4-5 INQF.1	Create a simple model to represent an event, system, or process.
Jet Propulsion	WA	SCI.4-5.2.4-5 INQF.2	Use the model to learn something about the event, system, or process.
Jet Propulsion	WA	SCI.4-5.2.4-5 INQH.2	Communicate to peers the purpose, procedure, results, and conclusions of an investigation.
Jet Propulsion	WA	SCI.4-5.3.4-5 APPE.1	Use suitable tools, techniques, and materials to make a drawing or build a model or prototype of the proposed design.
Vectoring	WA	SCI.4-5.2.4-5 INQD.1	Gather, record, and organize data using appropriate units, tables, graphs, or maps.
Vectoring	WA	SCI.4-5.2.4-5 INQF.1	Create a simple model to represent an event, system, or process.
Vectoring	WA	SCI.4-5.2.4-5 INQF.2	Use the model to learn something about the event, system, or process.
Vectoring	WA	SCI.4-5.2.4-5 INQH.1	Display the findings of an investigation using tables, graphs, or other visual means to represent the data accurately and meaningfully.
Vectoring	WA	SCI.4-5.3.4-5 APPF.1	Communicate the solution, results of any tests, and modifications persuasively, using oral, written, and/or pictorial representations of the process and product.
Vectoring	WA	SCI.4-5.4.4-5 PS1B.1	Measure the distance that an object travels in a given interval of time and compare it with the distance that another object moved in the same interval of time to determine which is fastest.
Center of Gravity, Pitch, Yaw	WA	SCI.4-5.2.4-5 INQB.1	Given a research question, plan an appropriate investigation, which may include systematic observations, field studies, models, open-ended explorations, or controlled experiments.
Center of Gravity, Pitch, Yaw	WA	SCI.4-5.2.4-5 INQF.1	Create a simple model to represent an event, system, or process.
Center of Gravity, Pitch, Yaw	WA	SCI.4-5.2.4-5 INQF.2	Use the model to learn something about the event, system, or process.
Center of Gravity, Pitch, Yaw	WA	SCI.4-5.3.4-5 APPE.1	Use suitable tools, techniques, and materials to make a drawing or build a model or prototype of the proposed design.
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<b>Grades 6-8</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	

Jet Propulsion	WA	SCI.6-8.2.6-8 INQC.1	Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative.
Jet Propulsion	WA	SCI.6-8.2.6-8 INQD.1	Plan and conduct a controlled experiment to test a hypothesis about a relationship between two variables. Determine which variables should be kept the same (controlled), which (independent) variable should be systematically manipulated, and which responding (dependent) variable is to be measured and recorded. Report any variables not controlled and explain how they might affect results.
Jet Propulsion	WA	SCI.6-8.2.6-8 INQE.1	Create a model or simulation to represent the behavior of objects, events, systems, or processes. Use the model to explore the relationship between two variables and point out how the model or simulation is similar to or different from the actual phenomenon.
Jet Propulsion	WA	SCI.6-8.2.6-8 INQG.1	Prepare a written report of an investigation by clearly describing the question being investigated, what was done, and an objective summary of results. The report should provide evidence to accept or reject the hypothesis, explain the relationship between two or more variables, and identify limitations of the investigation.
Center of Gravity, Pitch, Yaw	WA	SCI.6-8.2.6-8 INQB.1	Plan and conduct a scientific investigation (e.g., field study, systematic observation, controlled experiment, model, or simulation) that is appropriate for the question being asked.
Center of Gravity, Pitch, Yaw	WA	SCI.6-8.2.6-8 INQE.1	Create a model or simulation to represent the behavior of objects, events, systems, or processes. Use the model to explore the relationship between two variables and point out how the model or simulation is similar to or different from the actual phenomenon.
Fuel Efficiency	WA	SCI.6-8.2.6-8 INQC.1	Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative.
Fuel Efficiency	WA	SCI.6-8.2.6-8 INQC.3	Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships.